

*Advance Information*  
**Surface Mount**  
**Standard Recovery Power Rectifier**  
**SMB Power Surface Mount Package**

**MRS1504T3**

**STANDARD RECOVERY  
RECTIFIER  
1.5 AMPERES  
400 VOLTS**

Features mesa epitaxial construction with glass passivation. Ideally suited for high frequency switching power supplies; free wheeling diodes and polarity protection diodes.

- Compact Package with J-Bend Leads Ideal for Automated Handling
- Stable, High Temperature, Glass Passivated Junction

**Mechanical Characteristics:**

- Case: Molded Epoxy
- Epoxy Meets UL94, VO at 1/8"
- Weight: 95 mg (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Maximum Temperature of 260°C / 10 Seconds for Soldering
- Available in 12 mm Tape, 2500 Units per 13 inch Reel, Add "T3" Suffix to Part Number
- Polarity: Notch in Plastic Body Indicates Cathode Lead
- Marking: RGG



**CASE 403A-03  
SMB**

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	400	V
Average Rectified Forward Current (At Rated $V_R$ , $T_J = 118^\circ\text{C}$ )	$I_O$	1.5	A
Peak Repetitive Forward Current (At Rated $V_R$ , Square Wave, 20 kHz, $T_J = 118^\circ\text{C}$ )	$I_{FRM}$	3.0	A
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	$I_{FSM}$	50	A
Storage / Operating Case Temperature	$T_{stg}, T_C$	-55 to 150	°C
Operating Junction Temperature	$T_J$	-55 to 150	°C

**THERMAL CHARACTERISTICS**

Thermal Resistance – Junction-to-Lead (2)	$R_{tjl}$	18	°C/W
Thermal Resistance – Junction-to-Ambient (on 1" sq. Cu. PCB pattern)	$R_{tja}$	79	

**ELECTRICAL CHARACTERISTICS**

Maximum Instantaneous Forward Voltage (1), see Figure 2 ( $I_F = 1.5\text{ A}$ ) ( $I_F = 2.25\text{ A}$ )	$V_F$	$T_J = 25^\circ\text{C}$	$T_J = 100^\circ\text{C}$	V
		1.04 1.10	0.96 1.02	
Maximum Instantaneous Reverse Current, see Figure 4 ( $V_R = 400\text{ V}$ ) ( $V_R = 200\text{ V}$ )	$I_R$	$T_J = 25^\circ\text{C}$	$T_J = 100^\circ\text{C}$	$\mu\text{A}$
		1.0 0.5	340 180	

(1) Pulse Test: Pulse Width  $\leq 250\ \mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

(2) Minimum pad size

This document contains information on a new product. Specifications and information herein are subject to change without notice.

REV 1

# MRS1504T3

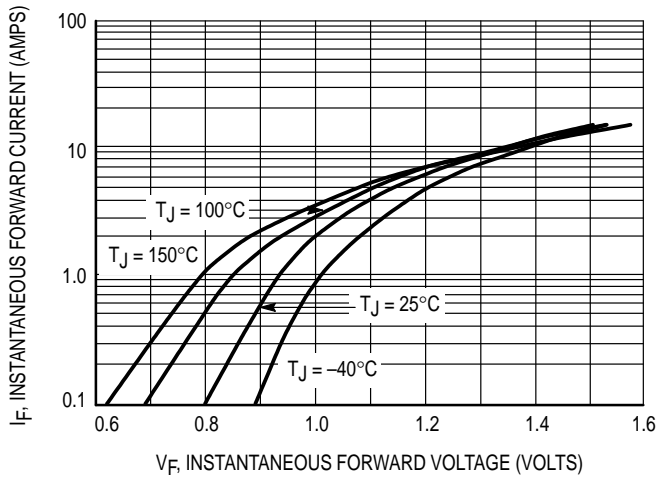


Figure 1. Typical Forward Voltage

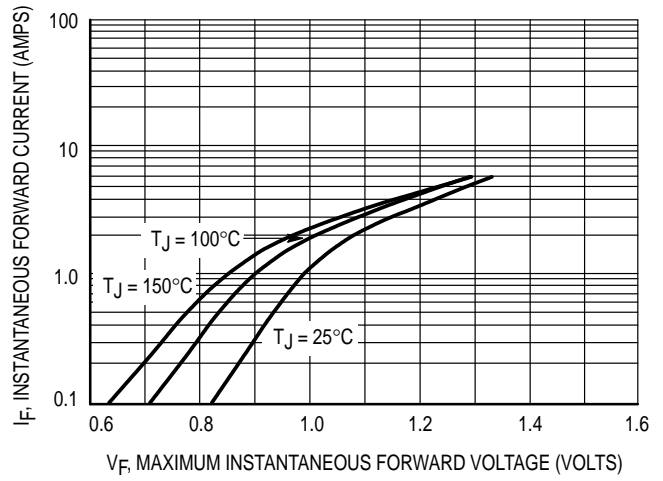


Figure 2. Maximum Forward Voltage

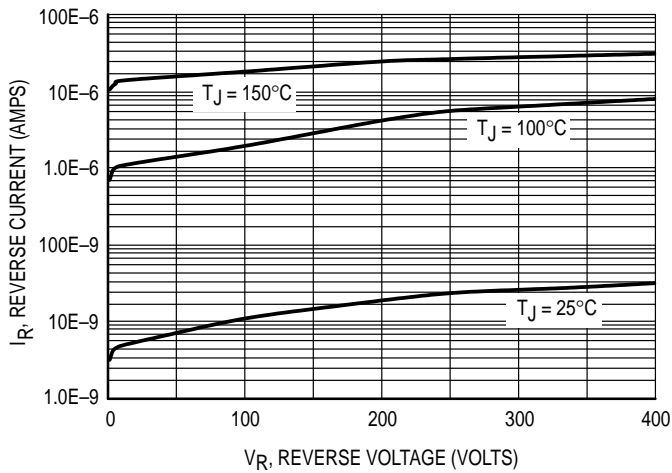


Figure 3. Typical Reverse Current

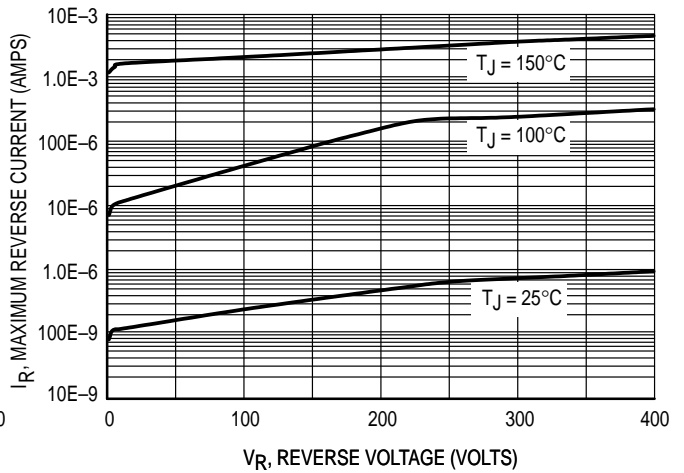


Figure 4. Maximum Reverse Current

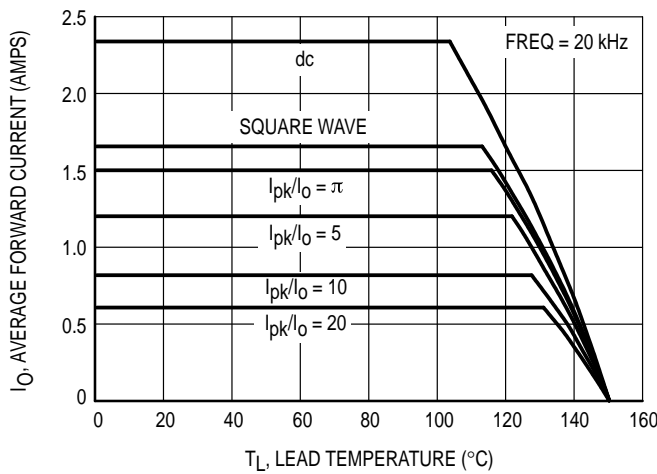


Figure 5. Current Derating

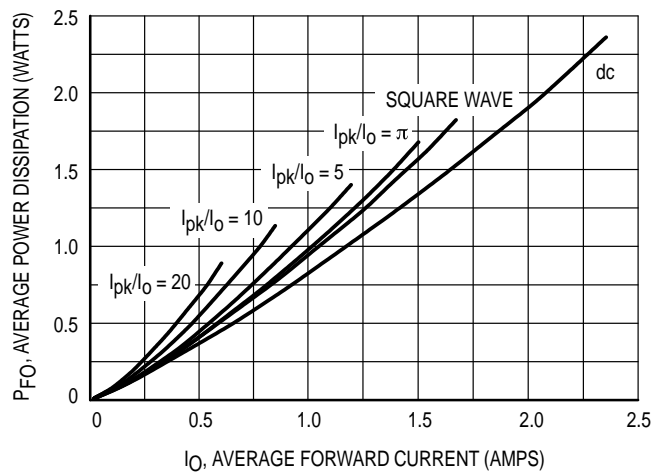


Figure 6. Forward Power Dissipation

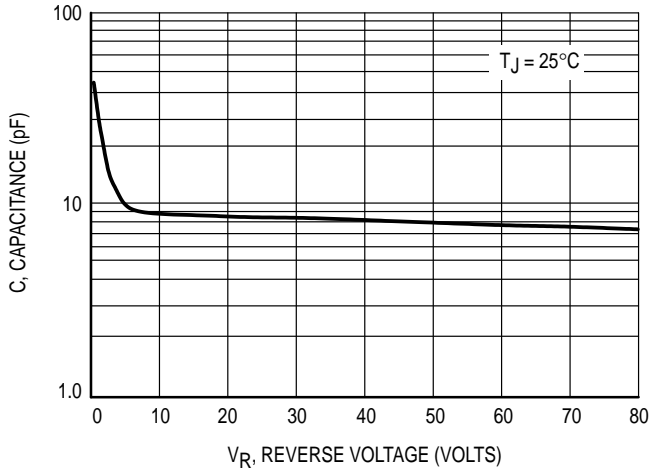


Figure 7. Capacitance

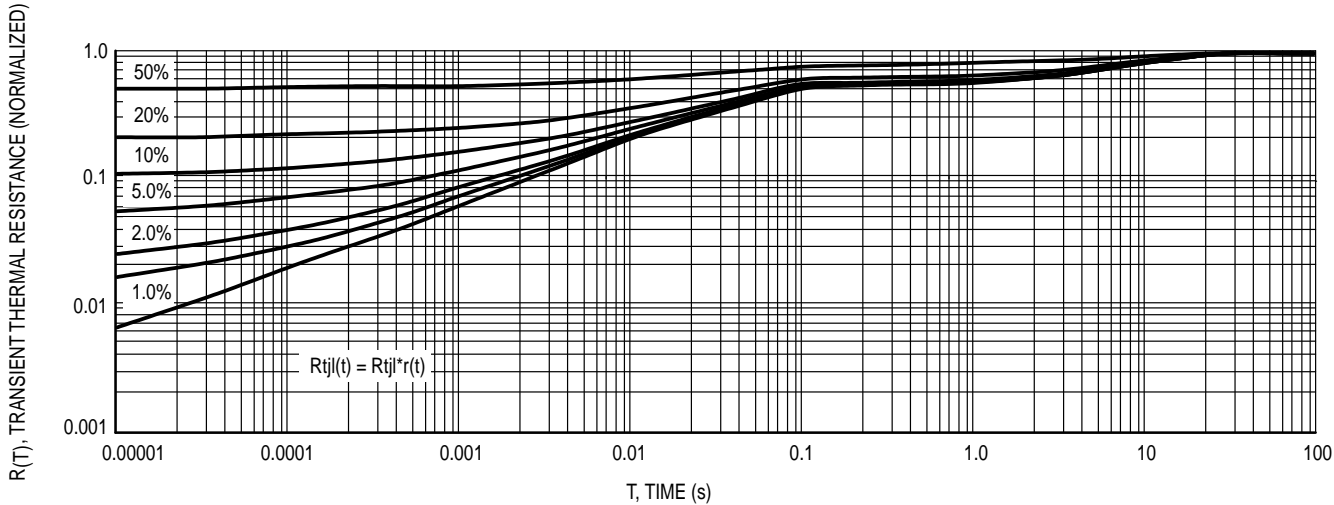


Figure 8. Thermal Response Junction to Lead

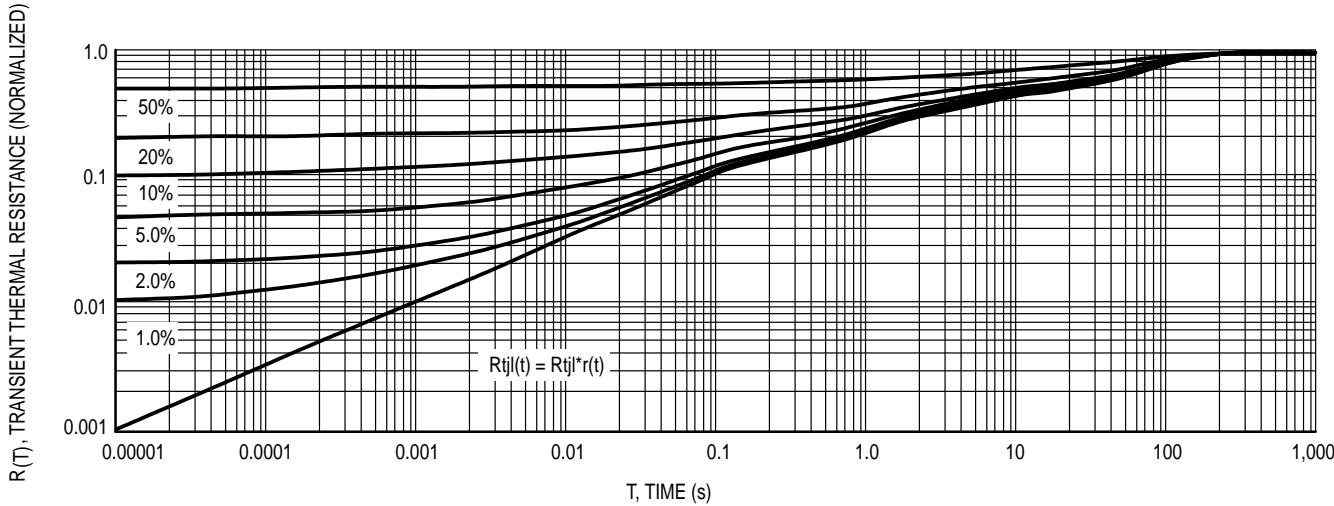
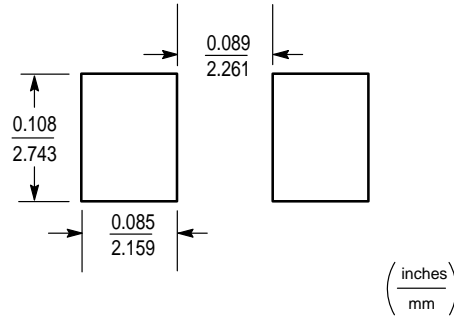


Figure 9. Thermal Response Junction to Ambient

**MRS1504T3**



**SMB**

**PACKAGE DIMENSIONS**

**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.160	0.180	4.06	4.57
B	0.130	0.150	3.30	3.81
C	0.075	0.095	1.90	2.41
D	0.077	0.083	1.96	2.11
H	0.0020	0.0060	0.051	0.152
J	0.006	0.012	0.15	0.30
K	0.030	0.050	0.76	1.27
P	0.020 REF		0.51 REF	
S	0.205	0.220	5.21	5.59

**CASE 403A-03  
ISSUE B**

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